

## CLAIMS

1 1. A method for integrating rework operations into a  
2 planning process comprising:  
3 providing at least one rework Bill of Materials flow  
4 for use in conjunction with other Bills of Materials flow in  
5 a production planning process;  
6 forecasting rework parametric information associated  
7 with said at least one rework Bill of Materials flow; said  
8 rework parametric information including at least one of:  
9 yields;  
10 cycle times;  
11 capacities; and  
12 rework materials; and  
13 generating an integrated manufacturing plan utilizing  
14 said rework parametric information and said at least one  
15 rework Bill of Materials flow.

1 2. The method of claim 1, further comprising:  
2 balancing capacity constraints for said at least one  
3 rework Bill of Materials with capacity constraints for said  
4 other Bills of Materials flow.

1 3. The method of claim 2, further comprising a rework  
2 process, said rework process comprising:  
3 executing said integrated manufacturing plan wherein  
4 said rework parametric information for materials not  
5 consumed during execution but determined to be reworkable  
6 are fed back into a second rework Bill of Materials flow  
7 operable for being consumed in a new integrated  
8 manufacturing plan.

1 4. The method of claim 1, wherein said yields include:  
2 a percentage of product determined to have successfully  
3 passed testing.

1 5. The method of claim 1, wherein said cycle time includes:  
2 an amount of time required to rework a product  
3 including wait time.

1 6. The method of claim 1, wherein said rework materials  
2 define materials created during a rework process.

1 7. The method of claim 1, wherein said integrated  
2 manufacturing plan is executed via a linear programming  
3 application.

1 8. A storage medium encoded with machine-readable computer  
2 program code for integrating rework operations into a  
3 planning process, said storage medium including instructions  
4 for causing a computer to implement a method comprising:  
5 providing at least one rework Bill of Materials flow  
6 for use in conjunction with other Bills of Materials flow in  
7 a production planning process;  
8 forecasting rework parametric information associated  
9 with said at least one rework Bill of Materials flow; said  
10 rework parametric information including at least one of:  
11 yields;  
12 cycle times;  
13 capacities; and  
14 rework materials; and  
15 generating an integrated manufacturing plan utilizing  
16 said rework parametric information and said at least one  
17 rework Bill of Materials flow.

1 9. The storage medium of claim 8, further comprising  
2 instructions for causing said computer to implement:  
3 balancing capacity constraints for said at least one  
4 rework Bill of Materials with capacity constraints for said  
5 other Bills of Materials flow.

1 10. The storage medium of claim 9, further comprising  
2 instructions for causing said computer to implement a rework  
3 process, said rework process comprising:  
4 executing said integrated manufacturing plan wherein  
5 said rework parametric information for materials not  
6 consumed during execution but determined to be reworkable  
7 are fed back into a second rework Bill of Materials flow  
8 operable for being consumed in a new integrated  
9 manufacturing plan.

1 11. The storage medium of claim 8, wherein said yields  
2 include:  
3 a percentage of product determined to have successfully  
4 passed testing.

1 12. The storage medium of claim 8, wherein said cycle time  
2 includes:  
3 an amount of time required to rework a product  
4 including wait time.

1 13. The storage medium of claim 8, wherein said rework  
2 materials define materials created during a rework process.

1 14. The storage medium of claim 8, wherein said integrated  
2 manufacturing plan is executed via a linear programming  
3 application.

1 15. A system for integrating rework operations into an  
2 advanced planning process comprising:  
3 a server executing:  
4 an advanced planning system;  
5 an enterprise resource planning system; and  
6 a rework system;  
7 a technical data repository in communication with said  
8 server; and  
9 rework parametric information comprising:  
10 yields;  
11 cycle times;  
12 capacities;  
13 rework materials;  
14 wherein said rework system implements:  
15 providing at least one rework Bill of  
16 Materials flow for use in conjunction with other Bills of  
17 Materials flow in a production planning process;  
18 forecasting rework parametric  
19 information associated with said at least one rework Bill of  
20 Materials flow; and  
21 generating an integrated manufacturing plan utilizing  
22 said rework parametric information and said at least one  
23 rework Bill of Materials flow.

1 16. The system of claim 15, wherein said rework system  
2 further implements:  
3 balancing capacity constraints for said at least one  
4 rework Bill of Materials with capacity constraints for said  
5 other Bills of Materials flow.

1 17. The system of claim 16, further comprising a rework  
2 process, said rework process implementing:  
3       executing said integrated manufacturing plan wherein  
4 said rework parametric information for materials not  
5 consumed during execution but determined to be reworkable  
6 are fed back into a second rework Bill of Materials flow  
7 operable for being consumed in a new integrated  
8 manufacturing plan.

1 18. The system of claim 15, wherein said integrated  
2 manufacturing plan is executed via a linear programming  
3 application.